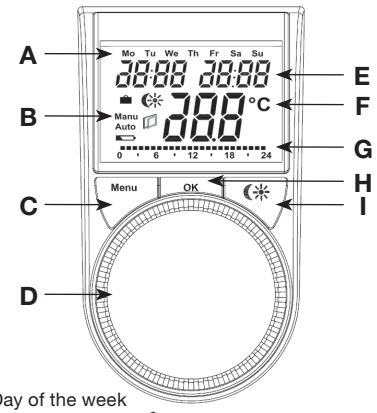
techno line

TM 3010

Please read this manual carefully in order to help you put the device into operation. Keep the manual handy so you can refer to it at a later date!

Operation and display



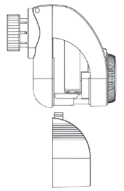
A Day of the week
B Holiday function (), manual operation (**Manu**), automatic operation (**Auto**), "battery empty" symbol (), set-back/comfort temperature (), "window open" symbol ()
C Menu button: Press and hold down the button for more than 3 seconds to open the configuration menu
D Setting wheel: For making adjustments (e.g. temperature)
E Time and date indicator, menu items, functions
F Current temperature setting
G Switching periods set within weekly program
H OK button: For confirming/saving
I button: For switching between set-back and comfort temperatures

General function

This energy-saving controller for radiators can be used to control room temperature on the basis of time. The actuator moves a valve, thereby allowing the amount of heat flowing to the heating appliance to be controlled. The controller is compatible with all standard heating appliance valves. The large illuminated display ensures user-friendly operation.
Installation can be achieved in 3 easy steps.

Step 1: Inserting (replacing) the batteries

- Remove the battery compartment cover.
- Insert 2 new Mignon batteries (LR6/AA) into the side battery compartments, ensuring they are the right way round.
- Reattach the battery compartment cover and click into place.



New alkaline batteries have a life of approximately three years. A battery symbol () will indicate when the batteries need to be replaced. After removing the old batteries, please wait approximately 1 minute before inserting the new ones.

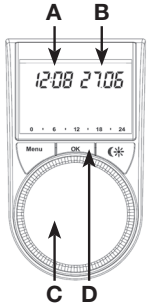
Never recharge standard batteries.
Doing so will present a risk of explosion.

Do not throw the batteries into a fire.
Do not short-circuit batteries.

Used batteries should not be disposed of with regular domestic waste. Instead, they should be taken to your local battery disposal point.

Step 2: Setting the date and time of day

The firmware version number will be displayed briefly once you have inserted/replaced the batteries and then you will be automatically prompted to set the date and time of day.



- Use the setting wheel (C) to set the year (B).
- Confirm with OK (D).
- Use the setting wheel (C) to set the month (B).
- Confirm with OK (D).
- Use the setting wheel (C) to set the day (B).
- Confirm with OK (D).
- Use the setting wheel (C) to set the hour (A).
- Confirm with OK (D).
- Use the setting wheel (C) to set the minute (A).
- Confirm with OK (D).

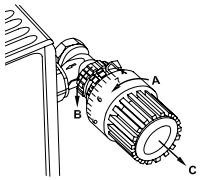
The motor will start moving back the control pin while the entries are still being made.

- If "InS" is displayed with a rotating "" symbol, this indicates that the motor is still moving back. Once the device is ready for the actuator to be installed on the valve, just "InS" will appear on the display.
- **The weekly program and other settings can be customised prior to installation.** To do this, press the menu button when "InS" is shown on the display. For further details, please see "4. Configuration menu".
- Once programming is complete, "InS" will reappear on the display and installation (Step 3) can commence.

Step 3: Installing the energy-saving controller

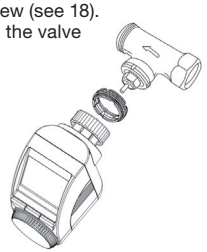
The actuator can be installed on all standard heating valves. There is no need to drain away water or fiddle around with the heating system before doing this. First, you need to remove the old thermostat dial:

- Turn the thermostat dial anticlockwise as far as it will go (A).
- Release the thermal ring of the thermostat (B).
- Remove the thermostat from the valve (C).



An adapter will need to be used in the case of certain valves. Adapters for Danfoss valves (RA, RAV, RAVL) are included in the scope of delivery. For details, please refer to the adapter overview (see 18).

- The adapter must be placed on the valve and turned until it is securely seated.
- In the case of the RAV adapter, the extension supplied must be attached to the valve tappet.
- The RA and RAV adapters must, in addition, be secured by means of the bolt and nut supplied.



The energy-saving controller can only be installed if "InS" is showing on the display. Following installation, the actuator will perform an adjustment run so that it can adapt to the valve. During this process, "AdA" will be displayed.

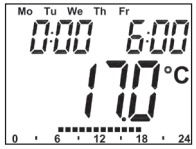
- Place the actuator on the valve.
- Tighten the union nut.

- "InS" will appear on the display, press the OK button.
- The actuator will perform an adjustment run ("AdA" will appear on the display, operation not possible).
- After that, the actuator will be ready for operation (Auto mode).

If the adjustment run was initiated prior to installation, or if an error message will be displayed (F1, F2, F3); press OK to move the motor back to the "InS" position.

1. Setting the weekly program

The weekly program allows you to set up to 3 separate heating periods (7 switching times) for each day of the week. Programming is performed in relation to the selected days, for which temperatures must be stored for a period from 00:00 to 23:59.



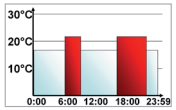
- Press and hold down the menu button for more than 3 seconds.
- "Pro" will appear on the display.
- Confirm with OK.
- "dAy" will appear on the display. The setting wheel can be used to select an individual day of the week, all working days, the weekend or the entire week (example shows working days selected).
- Confirm with OK.
- Use the setting wheel to set the first time segment (example shows 0:00 to 6:00).
- Confirm with OK.
- Then, select the required temperature for the selected time segment (example shows 17.0°C).
- Confirm with OK.
- Keep repeating this process until you have finished storing temperatures for the period from 0:00 to 23:59.

In Auto mode, the temperature can be modified at any time via the setting wheel. The modified temperature will then be retained until the next program changeover.

2. Weekly program: Examples

The energy-saving controller allows you to store up to 3 heating periods (7 switching times) with individual temperature settings for each day of the week. The factory setting consists of two heating phases (from 6:00 until 9:00 and from 17:00 until 23:00 respectively) for every single day of the week:

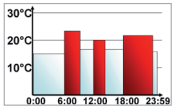
From 00:00 to 06:00 17.0°C
From 06:00 to 09:00 21.0°C
From 09:00 to 17:00 17.0°C
From 17:00 to 23:00 21.0°C
From 23:00 to 23:59 17.0°C



To represent the switching periods, the display shows bars for every other switching interval. In this example, no bars are shown for the interval from 0:00 to 6:00. Bars are only shown on the display for the intervals from 6:00 to 9:00 and from 17:00 to 23:00.

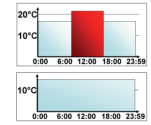
If a room also needs to be heated at around noon, the corresponding program might look like this:

Monday to Sunday
From 00:00 to 06:00 16.0°C
From 06:00 to 09:00 22.0°C
From 09:00 to 12:00 17.0°C
From 12:00 to 14:00 20.0°C
From 14:00 to 17:30 17.0°C
From 17:30 to 23:30 21.0°C
From 23:30 to 23:59 16.0°C



If you have a home office and only want it to be heated during the day on working days, you can program the following times:

Monday to Friday
From 00:00 to 08:30 17.0°C
From 08:30 to 17:00 21.0°C
From 17:00 to 23:59 17.0°C
Saturday and Sunday
From 00:00 to 23:59 15.0°C



3. Operating modes

To switch between the 3 operating modes described below, press the menu button briefly (these operating modes can only be selected following installation/Step 3):

- **Holiday function ():** Set a temperature that is to be maintained until a fixed point in time.
- **Manu:** Manual operation – The temperature is set manually using the setting wheel.
- **Auto:** Weekly program – The temperature is controlled automatically in accordance with the stored weekly program.

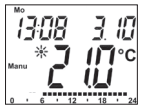
4. Configuration menu

The configuration menu can be used to modify settings. To access this menu, press and hold down the menu button (for more than 3 seconds).

- Pro: For setting the weekly program (see Section "1 Setting the weekly program")
- dAt: For modifying the time of day and date
- POS: For querying the actuator's current position
- dSt: Automatic switchover at the start or end of daylight saving time can be deactivated.
- AEr: For setting the "window open" temperature and time so that the temperature is automatically reduced in the event of ventilation
- tOF: For setting the offset temperature
- rES: For restoring the factory settings

Use the setting wheel to select menu items and the OK button to confirm your choice. Press the menu button again to return to the previous level. After 65 seconds without anything happening, the menu will close automatically.

5. Display content during normal operation



During normal operation, the following are displayed: day of the week, time of day, date, operating mode, temperature setting and switching periods.
The bars indicating the weekly program's switching periods are shown for every other time interval. For an example, please refer to "2. Weekly program: Examples".

6. Setting the holiday function

If you want a fixed temperature to be maintained for a set period of time while you are on holiday or during a party, you can make use of the Holiday function.
- Press and release the menu button repeatedly until the suitcase symbol ( ) appears on the display.
- Use the setting wheel to set the end of the time period during which the temperature is to be maintained.
- Press the OK button to confirm.
- Then use the setting wheel to set the date.
- Press the OK button to confirm.
- Use the setting wheel to set the temperature; press OK to confirm. The display will flash to confirm your settings.

The set temperature will remain in force until the specified time. After that, the actuator will adopt Auto mode.

7. Comfort and set-back temperatures

The comfort/set-back temperature button ( ) provides an easy and convenient way of switching between these two temperatures. The factory settings are 21.0°C and 17.0°C respectively. To adapt them, proceed as follows:
- Press and hold down the comfort/set-back temperature button ( ) for more than 3 seconds.
- The sun symbol ( ) will appear on the display along with the current comfort temperature.
- Use the setting wheel to modify the temperature; press OK to confirm.
- The moon symbol ( ) will appear together with the set-back temperature.
- Use the setting wheel to modify the temperature; press OK to confirm.

The temperature can even be modified in Auto mode at any time by using this button. The new setting will be retained until the program's next switching time.

8. Child-proof lock/Operating inhibit

Operation can be inhibited.
- To activate/deactivate the operating inhibit, briefly press the **Menu** and buttons at the same time.
- Once the function is active, "LOC" will appear on the display.
- To deactivate the function, press both buttons again.

9. Setting the heating break

If the heating is being switched off for the summer, you can save battery power. This involves opening the valve up fully. Limescale protection measures remain in place.
- To activate the heating break, turn the setting wheel clockwise during manual operation (**Manu**) until "On" appears on the display.

- To terminate the heating break, quit manual operation (**Manu**) or turn the setting wheel anticlockwise.

10. Setting frost protection mode

If you do not want the room to be heated, the valve can be closed. It will only be opened again if there is a risk of freezing due to frost. Limescale protection measures remain in place.
- To activate frost protection mode, turn the setting wheel anticlockwise during manual operation (Manu) until "OFF" appears on the display.
- To terminate frost protection mode, quit manual operation (Manu) or turn the setting wheel clockwise.

11. "Window open" function

In the event of a significant drop in temperature, the actuator can automatically detect whether the room is being ventilated. To save on heating costs, the temperature is then automatically reduced for a specific time period (factory setting: 15 minutes). While this function is active, the "window open" symbol ( ) appears on the display.
- Press and hold down the menu button for more than 3 seconds.
- Use the setting wheel to select the "AEr" menu item.
- Confirm with OK.
- Use the setting wheel to set the temperature and time. To deactivate the function, select a time of "0".

12. Setting the offset temperature

The temperature is measured at the heating appliance itself, with the result that other parts of the room may be warmer or colder than this. To allow for this, you can set a temperature offset of ±3.5°C. If, for example, a temperature of 18°C is measured somewhere within the room instead of the 20°C set, it means that an offset of -2.0°C needs to be configured.
- Press and hold down the menu button for more than 3 seconds.
- Use the setting wheel to select the "tOF" menu item.
- Confirm with OK.
- Use the setting wheel to modify the temperature.
- Press the OK button to confirm.

13. Restoring the factory settings

You can reset the actuator to its initial state manually. This will clear all the settings that have been made manually.
- Press and hold down the menu button for more than 3 seconds.
- Use the setting wheel to select the "rES" menu item.
- Confirm with OK.
- "ACC" will appear on the display; press OK to confirm.

14. Intended use

The energy-saving controller has been designed for the purpose of controlling a standard heating appliance valve. The device may only be operated indoors and must be protected from the effects of damp and dust, as well as solar radiation and sources of radiant heat.
Using the device for a purpose or in a manner other than that described in this operating manual constitutes a breach of the "intended use" and shall invalidate the warranty and any liability claims. The same shall apply in the event of any conversion or modification work. The devices are intended exclusively for domestic use.

15. Troubleshooting and maintenance

Error code on display	Problem	Remedy
Battery symbol ( )	Battery power too low	Replace batteries
F1	Valve actuator sluggish	Check installation, inspect heating valve
F2	Adjusting range too large	Check actuator fastening
F3	Adjusting range too small	Check heating valve

At 12:00 every Saturday, the actuator performs a weekly descaling function to prevent valve calcification.

16. Instructions for disposal

Do not dispose of the device with regular domestic waste.
Electronic equipment must be disposed of at local collection points for waste electronic equipment in compliance with local directives governing waste electrical and electronic equipment.

CE The CE sign is a free trade sign addressed exclusively to the authorities and does not warrant any properties.

17. Safety instructions

The devices concerned are not intended for children and must not be used as toys. Do not leave packaging material lying around, as children might be tempted to play with it, which is extremely dangerous. Do not open the device: it does not contain any components that need to be serviced by the user. In the event of an error, please return the device to our service department.

18. Adapter overview

Manufacturer	Figure	Adapter
Heimeier, MNG, Junkers, Landis&Gyr "Duodyr", Honeywell-Braukmann, Oventrop, Schlösser, Simplex, Valf Sanayii, Mertik Maxitrol, Watts, Wingenroth (Wiroflex), R.B.M., Tiemme, Jaga		No adapter required
Danfoss RA		Included in scope of supply
Danfoss RAV		Included in scope of supply
Danfoss RAVL		Included in scope of supply

19. Technical properties

Supply voltage:	3 V
Max. current consumption:	100 mA
Batteries:	2x Mignon batteries (LR6/AA)
Battery life:	Approx. 3 years
Display:	LC display
Housing dimensions:	56 x 99 x 98 mm (W x H x D)
Connection:	M30 x 1.5

We reserve the right to make any technical changes that constitute an improvement to the device.

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